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1.	Knew about hazards, U.S. dumped A-waste into river, report says *The Globe and Mail (Canada)*, February 2, 1981 Monday, (1249 words), JOCK FERGUSON; GAM

2.	ENERGY DEPT. REPORTS CAPPING WASTE TANK THAT HOLDS RADON *The New York Times*, February 2, 1981, Monday, Late City Final Edition, Section B; Page 1, Column 6; Metropolitan Desk, (559 words), By ERIC PACE

3.	ORNL thinks cermet is best choice for disposal of radioactive waste *Chemical Week*, January 9, 1980, TECHNOLOGY NEWSLETTER; Pg. 29, (175 words)

4.	Dump for Nuclear Waste Bans Shipments from Union Carbide *The Associated Press*, December 21, 1979, Friday, AM cycle, Domestic News, (474 words)

5.	The Associated Press October 24, 1979, Wednesday, AM cycle, Domestic News, (546 words), By KEVIN McKEAN, AP Science Writer

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The Globe and Mail (Canada)

February 2, 1981 Monday

Knew about hazards, U.S. dumped A-waste into river, report says

BYLINE: JOCK FERGUSON; GAM

LENGTH: 1249 words

By JOCK FERGUSON

The U. S. Government and private defence contractors dumped millions of gallons of radioactive and toxic wastes into the Niagara River during the Second World War, according to a New York State report.

Documents obtained through the U. S. Freedom of Information Act show that the Government and the contractors were aware of the hazards connected with the dumping.

U. S. Government records from the 1940s show that 37 million gallons of radioactive caustic wastes were pumped into a creek running to the Niagara River and into four shallow wells on the property of Linde Air Products Co. - a few hundred yards from the river in the town of Tonawanda, N. Y.

The wastes came from the first stage of uranium processing for the Government's "Manhattan Project," which built the two atomic bombs dropped on Hiroshima and Nagasaki at the end of the Second World War.

Linde, now part of **Union Carbide** Ltd., and the army were aware of the hazards associated with the disposal of the **radioactive** caustic wastes, according to documents in the report, released on the weekend.

A letter from Linde to the army dated March 29, 1944, said there were two possible ways to dispose of the waste: dump it into a storm sewer, from which it would go to Two-Mile Creek and finally the Niagara River, or dump it "into a well on our Tonawanda factory property."

The letter goes on to show that both parties were aware of the possibility of legal claims against them from the dumping.

"Plan 1 (dumping in the river) is objectionable because of probable future complications in the event of claims of contamination against us.

"Plan 2 (using shallow wells) is favored because our law department advises us it is considered impossible to determine the course of subterranean streams and, therefore, the responsibility for any contamination could not be fixed."

The report says that "as a result of an inexplicable lapse in bureaucratic memory, the Linde wells have apparently lain undisturbed and unmonitored for over 34 years . . . . Thus the impact of the disposal of 37 million gallons of radioactively contaminated wastes into underground wells remains undetermined to this day."

It says that many workers at Linde and a number of other Western New York industries were exposed to excessive levels of radiation and in many cases were never told what they were working with.

The report also says that "there is no evidence that officials have ever looked into the health histories of these workers . . . . Many were

exposed to radiation which exceeded even the primitive standards at the time. At one point, the permissible exposure limits were even raised in order to spur the war effort."

The report, called The Federal Connection: A History of U. S. Military Involvement in the Toxic Contamination of Love Canal and the Niagara Frontier Region, says that large but undetermined quantities of untreated cyanide waste (ammonium thiocyanate) were dumped into the river by Carborundum Metals Co. through sewers on the Lake Ontario Ordnance Works, just north of Niagara Falls.

The report also confirms a Globe and Mail story in November that TNT and TNT residues exist beneath SCA Chemical Waste Services Inc., a large hazardous waste disposal plant just north of Niagara Falls, N. Y. SCA is now on a section of the former Ordnance Works site.

The area was never properly decontaminated, the report says, and "in light of the site's present use by SCA as a chemical waste treatment and disposal facility, even the slightest possibility of explosions or fire from hidden TNT or residual wastes is of grave concern."

The SCA site is five miles from the Niagara River and the company has built a pipeline to carry up to a million gallons of treated liquid wastes a day to the river.

Canadian Environment Minister John Roberts said in a telephone interview from Edmonton yesterday that he was aware of the presence of TNT under SCA from the Globe story, but he knew nothing about the dumping of radioactive and cyanide wastes into the river.

"I don't know if Canada knew about the dumping at the time . . . . The Manhattan Project was a highly secret project," Mr. Roberts said.

Once his staff has reviewed the report, "we will likely make a direct representation to the U. S. Government" urging it to clean up residues that still exist, he said.

The authors of the state report said that New York's Attorney-General would go to court, if necessary, to get the U. S. Government to pay for a cleanup of waste it left in Western New York.

The report stems from the state's inability to locate the radioactive and chemical wastes generated by the Manhattan Project, the Army Ordnance Department and the Chemical Warfare Service in the mid-1940s.

In the detailed examination of documents pertaining to the TNT manufacturing process at the Lake Ontario Ordnance Works, north of Lewiston, N. Y., the report says the army dumped about 34 million gallons of highly acidic and toxic red and yellow trade water wastes into Four Mile Creek and, ultimately, Lake Ontario.

"The disposal of toxic (TNT) wastes directly into Lake Ontario resulted in considerable savings, amounting to $800,000 in capital costs and $125,000 yearly."

Turning to the present danger from contaminated TNT lines lying beneath the SCA site, the report says that "a forensic expert consulted by the task force . . . concluded there that there was, even today, a slight but not insignificant danger posed by the TNT waste lines . . .

"He noted that the army's attempted decontamination of the lines with soda ash would tend to destabilize the TNT residue," making it more explosive.

The Ordnance Works site was also used by Carborundum Metals Co. - with the approval of the U. S. Government - to get rid of an estimated 20 to 30 million gallons of ammonium thiocyanate in 1954-55.

The toxic chemicals were dumped down sewers leading directly to the

Niagara River.

"Throughout the year or so during which the dumping took place, all the parties involved showed more concern for potential damage claims than they did for protecting the environment or public health."

Wary that their actions might be illegal, officials of both Hooker Chemicals and Plastics Corp., then the maintenance contractor at the site, and the U. S. Atomic Energy Commission demanded written assurances that their organizations would be protected from claims of damage or injury arising from cyanide dumping, the report says.

The report establishes conclusively through eyewitness testimony that the army disposed of drums of chemical waste at Love Canal during the 1940s and early 1950s.

In the past two years, more than 700 families have been removed from the Love Canal neighborhood because of chemical contamination of their homes.

"The task force's conclusion that army personnel were directly involved on numerous occasions with the dumping of wastes at Love Canal may be contrasted with the Defence Department's steadfast denials of such involvement."

At a Saturday news conference in Niagara Falls, N. Y., the co-author of the report, Gordon Boyd, said that "the state is very concerned about the effects of the dumping on the river and Lake Ontario.

"We all know that industry had a hand in polluting the river, (but) the significance of this report is the extent of the dumping by the federal Government while at the same time it had a role in regulating pollution of the river."

Jock Ferguson is a Toronto freelance journalist.

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The New York Times

February 2, 1981, Monday, Late City Final Edition

ENERGY DEPT. REPORTS CAPPING WASTE TANK THAT HOLDS RADON

BYLINE: By ERIC PACE

SECTION: Section B; Page 1, Column 6; Metropolitan Desk

LENGTH: 559 words

The Federal Department of Energy, which last year acted to cap possible radiation leaks at the site of a World War II ordnance works near Buffalo, expects to take additional measures this spring, a high official of the department said yesterday.

The site of the old Lake Ontario Ordnance Works was among those where ''environmental crimes'' had been committed in the Buffalo area and elsewhere, it was charged by a New York State toxic waste task force in a report issued Saturday.

The task force said Federal officials and the United States Army had failed to take sufficient action against radiation and chemical contamination arising from the World War II atomic bomb project and from ordnance plant activity.

Reached at his Maryland home, the Energy Department official, Robert Ramsey, also said that the danger to humans posed by radioactive materials at the 190-acre part of the ordnance works site that is now owned and run by the department was ''very slight.''

Unaware of Any Harm

He said he was not aware of any proven evidence that harm had been caused to humans or to animal life. Among measures that the department has already taken at the ordnance works, he said, was the placing of a sheet steel cap on a former water storage tank to reduce the emanation of radon gas, which is a decayed product of radium.

In addition, he said concrete caps may be placed on top of some other installations, or clay or soil be put around them to prevent the diffusion of radon.

A survey taken by the Oak Ridge National Laboratory at another site in the Buffalo area, containing facilities operated by the old Linde Air Products Company for the atomic bomb project, had shown there was ''no immediate health hazard to the general population,'' according to a second high Energy Department official, Robert W. Barber, who was reached at home in Maryland.

And he said the department had made plans before the report was issued to survey the level of radiation contamination in the vicinity of shallow wells containing wastes dumped by Linde and the Army.

Wells in Tonawanda

The report said that Linde - now the Linde Division of the **Union Carbide** Corporation - and the Army had dumped more than 37 million gallons of

radioactive caustic wastes from the Manhattan Project into the wells, which are at Tonawanda, N.Y., near Buffalo.

In addition, the report also charged that the Army had never sufficiently decontaminated the Lake Ontario Ordnance Works site - which is eight miles north of Niagara Falls in Lewiston and Porter - leaving behind radioactive residues and TNT wastes. All told, it said, 20,000 tons of residue from the Manhattan Project's centers around the country were deposited there.

A group of local citizens concerned with environmental issues arising from the ordnance works site has been meeting for more than a year with Energy Department representatives, Mr. Ramsey reported. Mr. Ramsey, manager for the remedial action program office in the office of the assistant secretary for nuclear waste management, said the department intended to move the material but had not yet found another site.

LANGUAGE: ENGLISH

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3 of 5 DOCUMENTS

Chemical Week

January 9, 1980

ORNL thinks cermet is best choice for disposal of radioactive waste

SECTION: TECHNOLOGY NEWSLETTER; Pg. 29

LENGTH: 175 words

Workers at the Oak Ridge National Laboratory (operated by **Union Carbide)** say a newly-developed combination of metal and ceramic (cermet) is the best bet yet for isolation and storage of high-level **radioactive** wastes. The cermet, they say, is the only disposal form yet demonstrated that can reduce the volume of the starting waste material. Actual reduction depends on the composition, but contained product can be from 0.5 to 0.01 times original volume. Researchers have prepared samples from high-level wastes and waste sludge from the Savannah River plant (Aiken, S.C.) and from the Nuclear Fuel Services plant (West Valley, N.Y.). Other advantages being touted for cermets: stability, high thermal conductivity and good mechanical strength. The thermal conductivity permits waste loadings of up to 70% per unit of volume. In less-compacted, solid waste forms, the loading is 5-25%. The cermet is produced by fixing the waste in uniformly dispersed microscopic ceramic particles, permanently bound in an iron-nickel base alloy.

LANGUAGE: ENGLISH

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4 of 5 DOCUMENTS

The Associated Press

December 21, 1979, Friday, AM cycle

Dump for Nuclear Waste Bans Shipments from Union Carbide

SECTION: Domestic News

LENGTH: 474 words

DATELINE: BEATTY, Nev.

Union Carbide Co. is the 10th company to be told it cannot ship chemicals to the commercial nuclear waste dump here --one of only three in operation in the U.S., the dump operator said Friday.

George Kolbenschlag, a spokesman for the dump operator, Nuclear Engineering Co., said the state ordered Union Carbide to temporarily halt shipment of wastes to the Beatty facility.

He said the order came after a drum of waste materials delivered from Union Carbide's Medical Products Division in Tuxedo, N.Y., appeared to have leaked a crystalized substance. He said that an investigation showed that the crystalized substance did not come from inside the drum.

However, when the drum was opened, vials containing liquid were found inside, although shipping papers indicated the drum contained only solids, said Kolbenshlag.

"Its a paperwork violation, as far as we know," said Kolbenshlag.

The leaked substance, discovered Thursday night, "was not radioactive, nor was there any radioactive contamination found on the drums or the truck, Kolbenschlag said. "There is no health hazard."

Chris Schaller, an aide to Gov. Robert List, on Friday said the state ordered the entire 80-barrel shipment returned to Union Carbide's Tuxedo plant. He said the company was barred from dumping at the Beatty site until the shipment is certified as safe for disposal.

R.W. King, president of the **Union Carbide** division involved in the dispute, said Friday that the move by Nevada officials leaves the company with no place to dispose of low-level **radioactive** materials.

Union Carbide "certainly wants to do everything we can to find out what happened," said King.

He said the drum that caused the suspicision contained materials used in the manufacture of molybdenum 99, an isotope used in radioactive imaging for brain, liver and heart scans.

He said that if the ban "were to go on for very long and we were forced to reduce our production, there would be a severe shortage of these isotopes ... Very imporatant medical procedures depend on this and mankind would suffer."

Union Carbide joins nine California institutions -- companies, hospitals and a university -- banned from shipping their wastes here after leaking drums were discovered Dec. 11. Kolbenschlag said that the dump operator and the state are

waiting for the firms to provide quality assurance programs.

The waste dump became a political topic in Nevada last May when a truck hauling low-level waste --the only kind accepted at the dump -- caught fire at the dump gates.

On Oct. 22, List ordered the dump shut down and asked the state Board of Health to revoke the dump operator's permit.

The state alleged improperly buried barrels had been discovered, but the board rebuffed the governor and ordered the dump reopened, saying it could find no significant health hazard.

LANGUAGE: ENGLISH

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The Associated Press

October 24, 1979, Wednesday, AM cycle

BYLINE: By KEVIN McKEAN, AP Science Writer

SECTION: Domestic News

LENGTH: 546 words

DATELINE: Doctors who work with radioisotopes

and the companies which make them -- said Wednesday they would have to stop work in four to six weeks unless new radioactive waste disposal sites are found.

Sites at Hanford, Wash., and Beatty, Nev. -- two of three in the nation that accept low-level wastes from medical sources -- have been closed this month.

And South Carolina Gov. Dick Riley has said he will act next week to "significantly" reduce the wastes accepted at the third site, Barnwell, S.C. Riley said he would not accept any wastes that would usually go to the other sites.

With the sites closing, hospitals have been forced to stockpile the wastes they produce in diagnosis and treatment of disease. The makers of isotopes face an even more difficult problem, since manufacture of these radiopharmaceuticals, as they are called, produce more nuclear waste than their use.

Thousands of patients a year are treated or studied with isotopes, which are simply various forms of individual atomic elements, and 60 million radioisotope tests are performed annually that do not involve injecting isotopes into the body.

For example, doctors get a television picture of a beating heart by injecting radioactive thallium which collects in the heart muscle. The only current test for detecting hepatitis virus relies on isotopes.

The problem is that these diagnostic tests often produce waste in a liquid form which cannot be solidified easily. The Washington site was the last in the country to accept liquid wastes before Gov. Dixy Lee Ray closed it Oct. 4.

"We have our own personal storage which will not be filled until Dec. 1. But after then, we're going to be in bad shape," said Dr. Calvin Brantley, a vice president of New England Nuclear Corp., the nation's largest radiopharmaceutical company.

Marcus Voth, manager of nuclear operations at Union Carbide Medical Products Division, estimated his company may have as little as a four-week storage margin. **Union Carbide**, which is currently able to ship to South Carolina, is the chief U.S. maker of **radioactive** technetium, the main isotope used in injectable nuclear preparations.

Brantley, who is head of a Committee on Radioisotopes of the Atomic Industrial Forum, said he surveyed other manufacturers and found most were in similar shape.

Many hospitals also face a radioactive glut, including Massachusetts General Hospital in Boston, which has asked doctors to cut back on the use of

radioactive materials.

Dr. Leonard Freeman, head of radiology at Montefiore Hospital in New York and president of the 10,500-member Society of Nuclear Medicine, sent a telegram to President Carter Tuesday saying there was a "crisis" in his profession.

Even if Barnwell, S.C., stays open to solid wastes, researchers have no place to dispose of these liquuid wastes, and the journal Science said this week that some labs may be forced to dump them down the drain.

Freeman said that in general, the wastes from nuclear medicine and the manufacture of medical isotopes are less radioactive than byproducts of nuclear power generation. Some medical wastes are barely radioactive at all.

He said he hoped all three sites would be reopened and, failing that, that the Department of Energy would open its half-dozen disposal sites to commercial wastes.

LANGUAGE: ENGLISH